



2020 Census Data Quality

Presentation to the Census National Advisory Committee
May 6, 2021

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Ensuring High Quality Data from the 2020 Census

Multi-prong Approach:

- Chartered the 2020 **Data Quality Executive Guidance Group** a year ago to ensure that we had the right focus and resources dedicated to detecting and addressing data quality issues.
- Initiated the **engagement of external expert groups**, as part of our commitment to transparency, to provide quality assessments on different aspects of the program and on different timelines.
- Expanded the **tools and metrics** already in place to assess Census Quality.

2020 Census

Data Quality External Expert Engagement Efforts

Asking outside experts to review our work is standard operating procedure at the U.S. Census Bureau. It underscores our commitment to quality and transparency.

- Engaging with the National Academy of Sciences (NAS) Committee on National Statistics, American Statistical Association Quality Indicators Task Force, and JASON. These three groups will tackle different aspects of assessing the Census Bureau's work. Their reports will advise the Census Bureau on improving future censuses and will help the public understand the quality of the 2020 Census data.
 - **Quick turnaround feedback** on our processes, procedures and metrics from JASON. We shared their final report publicly back in February.
 - **A real-time assessment** by a team of experts from the American Statistical Association on quality indicators. The ASA shares regular updates on its website to keep stakeholders up to date [Updates on the 2020 Census Quality Indicators \(amstat.org\)](https://www.amstat.org/quality)
 - For a **longer term assessment**, we are in the process of establishing a consensus panel with the Committee on National Statistics that will conduct an evaluation of the quality of the data from the 2020 Census. We held our kick-off meeting on May 3 and it is anticipated that the study will take 18-24 months.

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Upcoming 2020 Census Tools, Assessments and Evaluations

Milestones for Release of Data Quality Assessment Metrics:

- Release of Demographic Analysis Results: Released December 15, 2020
- Release of 2020 Census Operational Quality Metrics to accompany Resident Population Counts: April 26, 2021 and May 2021
- Release of 2020 Census Operational Quality Metrics to accompany Redistricting Data Products: September 2021
- Release of Initial 2020 Post Enumeration Survey Results: Early 2022

Assessments are designed to document final volumes, rates, and costs for individual operations or processes using data from production files and activities and information collected from debriefings and lessons learned. 54 Operational Assessments on the 2020 Census will be published, beginning in Summer 2021.

Evaluations are designed to analyze, interpret, and synthesize the effectiveness and efficiencies of census components and their impact on data quality and coverage. A total of 14 Evaluations on the 2020 Census will be published, beginning in Summer 2021.

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Operational Quality Metrics: April 2021

- No single number can definitively quantify the quality of the census.
- Operational metrics are data points related to progress and results of census operations.
- Insights gained through comparisons by state and comparisons to past census results.
- Differences are:
 - A result of changes within the Census Bureau's control such as changes in the operational design since 2010.
 - A result of changes outside of the Census Bureau's control such as normal changes in the population, respondent behavior, and COVID-19.
 - Expected across geographies and when making comparisons to the 2010 Census.
- Different doesn't necessarily mean "better" or "worse."

2020 Census

Resolution of Addresses

Every address in the 2020 Census universe must be assigned a resolution.

Resolution of an addresses involves a determination of status (occupied, vacant, or nonexistent) and when occupied, collection of census response information for all persons at an address.



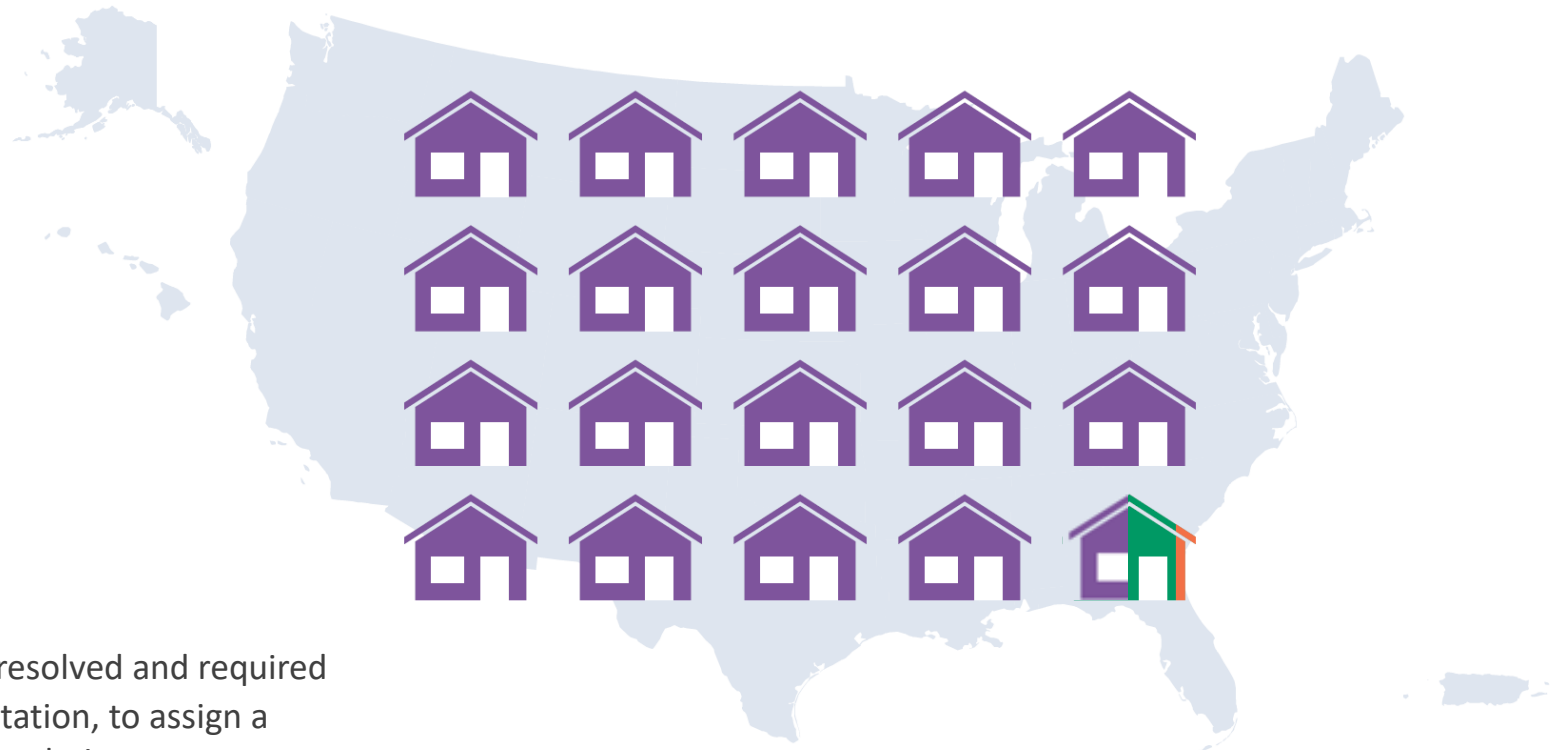
Over 97% of addresses were resolved through self-response (internet, phone or paper) or nonresponse followup (household interview, high-quality administrative records, or proxy interview).



Almost 2% of addresses were resolved through operations targeted at unique geographies or populations such as addresses in remote areas of Alaska or addresses for group quarters, where people live and receive services.



Less than 1% of addresses were unresolved and required a statistical methodology, known as imputation, to assign a status, and when occupied, to assign a population count.



2020 Census Quality of Address Resolutions – a Hierarchy

	2010	2010 Cumulative Total *		2020	2020 Cumulative Total *
Highest quality data are collected through self-response online, by phone, or by mail	61.1%	61.1%		65.3%	65.3%
If we don't receive a self response, we:					
• Prefer an interview with a household respondent	18.8%	79.9%		10.8%	76.1%
• Can use high-quality administrative records, when available, when a household respondent can not be reached (only 2020)				4.6%	80.7%
• Will collect a response from a neighbor, landlord, or building manager (a proxy response) after multiple attempts to collect data from a household respondent are unsuccessful	19.5%	99.4%		18.2%	98.9%
Unresolved addresses after data collection	0.4%	99.8%		0.2%	99.1%
Unresolved addresses after person unduplication				0.7%	99.8%

* Numbers may not sum to 100% due to rounding.

Detailed State by Metric Tables

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2020 Census Comparison to 2010 Census: Addresses Resolved as Self-Response

Every State Had Higher Self-Response Resolution in 2020 Compared to 2010

2010 Census U.S. Total: 61.1%
2020 Census U.S. Total: 65.3%
Difference: 4.2%

Highest Self-Response Resolution: Minnesota 73.6%
 Wisconsin: 71.4%
 Washington: 70.4%

Lowest Self-Response Resolution: Maine 56.5%
 West Virginia 55.3%
 Alaska 47.9%

State	2010 Census	2020 Census	Difference
Alabama	56.8%	61.2%	4.3%
Alaska	43.7%	47.9%	4.2%
Arizona	55.6%	62.4%	6.9%
Arkansas	58.4%	58.8%	0.5%
California	62.1%	67.4%	5.3%
Colorado	63.6%	67.9%	4.3%
Connecticut	63.5%	69.0%	5.5%
Delaware	59.1%	64.8%	5.7%
DC	61.0%	61.2%	0.2%
Florida	57.9%	62.9%	5.0%
Georgia	57.2%	61.1%	3.9%
Hawaii	56.6%	61.0%	4.3%
Idaho	60.0%	67.6%	7.6%
Illinois	66.3%	70.1%	3.8%
Indiana	65.7%	69.1%	3.4%
Iowa	69.6%	70.2%	0.6%
Kansas	65.6%	68.1%	2.4%

State	2010 Census	2020 Census	Difference
Kentucky	59.9%	66.2%	6.3%
Louisiana	56.7%	58.7%	2.0%
Maine	52.0%	56.5%	4.5%
Maryland	63.8%	69.5%	5.8%
Massachusetts	62.9%	67.3%	4.5%
Michigan	63.4%	70.0%	6.6%
Minnesota	68.1%	73.6%	5.5%
Mississippi	55.7%	58.3%	2.6%
Missouri	63.6%	64.2%	0.6%
Montana	57.1%	59.7%	2.6%
Nebraska	67.0%	70.3%	3.2%
Nevada	55.5%	65.3%	9.8%
New Hampshire	57.8%	65.9%	8.2%
New Jersey	62.9%	68.1%	5.2%
New Mexico	50.4%	57.8%	7.4%
New York	58.1%	62.4%	4.4%
North Carolina	57.1%	61.8%	4.7%

State	2010 Census	2020 Census	Difference
North Dakota	63.0%	63.2%	0.2%
Ohio	65.6%	69.4%	3.9%
Oklahoma	58.9%	59.2%	0.4%
Oregon	63.2%	67.8%	4.6%
Pennsylvania	65.4%	67.9%	2.5%
Rhode Island	61.8%	64.8%	3.0%
South Carolina	57.9%	59.6%	1.7%
South Dakota	60.6%	65.8%	5.2%
Tennessee	62.0%	64.1%	2.2%
Texas	58.9%	60.7%	1.7%
Utah	61.5%	68.9%	7.4%
Vermont	52.8%	59.6%	6.7%
Virginia	63.1%	69.4%	6.3%
Washington	62.4%	70.4%	8.1%
West Virginia	54.8%	55.3%	0.5%
Wisconsin	63.8%	71.4%	7.6%
Wyoming	56.5%	59.7%	3.2%

States with largest increase.

States with smallest increase.

2020 to 2010 Addresses: NRFU and Other Enumeration Activities Resolved by Household Interview

Higher Self-Response and Administrative Records Usage Resulted in Lower Household Interviews

2010 Census U.S. Total: 18.8%
2020 Census U.S. Total: 10.8%
Difference: -8.0%

Highest Household Interview Resolution: Alaska 17.1%
 Texas 13.5%
 Mississippi 13.1%

Lowest Household Interview Resolution: Wisconsin 7.8%
 Michigan 7.4%
 Minnesota 7.3%

State	2010 Census	2020 Census	Difference
Alabama	19.2%	9.8%	-9.4%
Alaska	28.6%	17.1%	-11.5%
Arizona	17.9%	11.2%	-6.7%
Arkansas	19.0%	11.1%	-7.9%
California	22.0%	12.2%	-9.8%
Colorado	16.8%	9.2%	-7.6%
Connecticut	19.1%	11.0%	-8.0%
Delaware	16.6%	10.8%	-5.8%
DC	16.6%	9.4%	-7.2%
Florida	16.5%	11.0%	-5.6%
Georgia	19.8%	12.2%	-7.6%
Hawaii	22.0%	13.1%	-8.9%
Idaho	18.6%	10.6%	-8.0%
Illinois	17.3%	9.2%	-8.1%
Indiana	16.4%	10.1%	-6.3%
Iowa	15.2%	8.4%	-6.8%
Kansas	17.5%	9.8%	-7.7%

State	2010 Census	2020 Census	Difference
Kentucky	19.4%	9.7%	-9.6%
Louisiana	19.9%	11.8%	-8.1%
Maine	18.4%	10.8%	-7.7%
Maryland	18.4%	10.4%	-8.0%
Massachusetts	19.8%	10.2%	-9.6%
Michigan	14.2%	7.4%	-6.8%
Minnesota	14.7%	7.3%	-7.3%
Mississippi	21.8%	13.1%	-8.7%
Missouri	15.8%	9.0%	-6.8%
Montana	18.4%	9.7%	-8.7%
Nebraska	16.1%	9.2%	-6.8%
Nevada	18.5%	12.5%	-6.0%
New Hampshire	20.2%	10.0%	-10.2%
New Jersey	20.0%	11.0%	-9.0%
New Mexico	23.1%	12.5%	-10.6%
New York	20.6%	11.8%	-8.9%
North Carolina	18.4%	11.4%	-7.0%

State	2010 Census	2020 Census	Difference
North Dakota	17.2%	8.1%	-9.0%
Ohio	17.1%	9.4%	-7.7%
Oklahoma	19.6%	12.3%	-7.3%
Oregon	19.9%	10.4%	-9.5%
Pennsylvania	17.2%	9.5%	-7.7%
Rhode Island	19.4%	12.2%	-7.3%
South Carolina	16.7%	11.1%	-5.6%
South Dakota	19.7%	9.8%	-9.9%
Tennessee	17.9%	11.1%	-6.8%
Texas	20.6%	13.5%	-7.1%
Utah	21.3%	9.6%	-11.7%
Vermont	20.5%	10.3%	-10.2%
Virginia	19.5%	10.7%	-8.8%
Washington	20.6%	10.4%	-10.3%
West Virginia	21.4%	10.9%	-10.6%
Wisconsin	17.2%	7.8%	-9.4%
Wyoming	20.1%	10.9%	-9.2%

States with smallest decrease.

States with largest decrease.

2020 Census

Addresses Resolved by Administrative Records (Innovation for the 2020 Census)

2020 Census U.S. Total: 4.6%

Highest Ad Rec Resolution: DC 5.5%
Delaware 5.7%
Florida 5.9%

Lowest Ad Rec Resolution: Hawaii 2.8%
Alaska 3.0%
Idaho 3.1%

State	2020 Census
Alabama	4.3%
Alaska	3.0%
Arizona	4.7%
Arkansas	4.6%
California	4.2%
Colorado	4.2%
Connecticut	4.8%
Delaware	5.7%
DC	5.5%
Florida	5.9%
Georgia	4.8%
Hawaii	2.8%
Idaho	3.1%
Illinois	4.6%
Indiana	4.4%
Iowa	5.2%
Kansas	4.1%

State	2020 Census
Kentucky	3.8%
Louisiana	5.5%
Maine	5.2%
Maryland	4.6%
Massachusetts	4.6%
Michigan	4.5%
Minnesota	3.9%
Mississippi	4.7%
Missouri	4.7%
Montana	3.6%
Nebraska	4.5%
Nevada	5.1%
New Hampshire	5.1%
New Jersey	4.4%
New Mexico	3.9%
New York	4.8%
North Carolina	5.1%

State	2020 Census
North Dakota	4.1%
Ohio	4.8%
Oklahoma	4.0%
Oregon	3.7%
Pennsylvania	4.6%
Rhode Island	5.4%
South Carolina	5.1%
South Dakota	4.3%
Tennessee	4.6%
Texas	4.7%
Utah	3.1%
Vermont	4.1%
Virginia	4.2%
Washington	4.0%
West Virginia	3.6%
Wisconsin	4.2%
Wyoming	4.5%

2020 to 2010: Addresses from NRFU and Other Enumeration Activities Resolved by Proxy Interview

Lower Overall Proxy Resolution in 2020 Compared to 2010

2010 Census U.S. Total: 19.5%
2020 Census U.S. Total: 18.2%
Difference: -1.3%

Lowest Proxy Resolution: Connecticut 13.8%
 Washington 14.0%
 Minnesota 14.2%

Highest Proxy Resolution: Maine 26.3%
 West Virginia 29.1%
 Alaska 30.2%

State	2010 Census	2020 Census	Difference
Alabama	23.1%	23.5%	0.4%
Alaska	26.9%	30.2%	3.3%
Arizona	25.8%	20.9%	-5.0%
Arkansas	22.0%	24.5%	2.5%
California	15.3%	15.1%	-0.3%
Colorado	18.9%	17.8%	-1.1%
Connecticut	16.9%	13.8%	-3.1%
Delaware	23.2%	17.9%	-5.3%
DC	20.9%	22.4%	1.4%
Florida	24.9%	19.3%	-5.6%
Georgia	22.0%	20.8%	-1.2%
Hawaii	20.9%	21.7%	0.9%
Idaho	20.7%	17.9%	-2.8%
Illinois	15.9%	15.1%	-0.8%
Indiana	17.6%	15.6%	-2.0%
Iowa	14.8%	15.4%	0.6%
Kansas	16.5%	17.0%	0.5%

State	2010 Census	2020 Census	Difference
Kentucky	20.1%	19.2%	-0.9%
Louisiana	22.5%	22.2%	-0.3%
Maine	29.2%	26.3%	-2.9%
Maryland	17.1%	14.5%	-2.6%
Massachusetts	16.9%	16.3%	-0.5%
Michigan	21.8%	17.1%	-4.7%
Minnesota	16.5%	14.2%	-2.3%
Mississippi	21.6%	22.7%	1.1%
Missouri	20.1%	21.0%	1.0%
Montana	23.6%	26.0%	2.4%
Nebraska	16.6%	15.0%	-1.5%
Nevada	25.2%	16.2%	-9.0%
New Hampshire	21.8%	18.0%	-3.8%
New Jersey	16.4%	15.4%	-1.0%
New Mexico	25.3%	24.7%	-0.6%
New York	20.5%	19.4%	-1.1%
North Carolina	23.5%	20.6%	-2.9%

State	2010 Census	2020 Census	Difference
North Dakota	19.6%	23.4%	3.9%
Ohio	17.0%	15.5%	-1.5%
Oklahoma	21.1%	23.4%	2.4%
Oregon	16.3%	17.0%	0.7%
Pennsylvania	16.9%	16.8%	-0.1%
Rhode Island	18.2%	16.3%	-1.8%
South Carolina	24.6%	23.1%	-1.5%
South Dakota	18.9%	19.2%	0.3%
Tennessee	19.5%	19.2%	-0.3%
Texas	19.8%	20.2%	0.4%
Utah	16.8%	17.2%	0.4%
Vermont	26.4%	24.7%	-1.7%
Virginia	16.9%	14.8%	-2.2%
Washington	16.4%	14.0%	-2.4%
West Virginia	23.2%	29.1%	6.0%
Wisconsin	18.5%	15.5%	-3.0%
Wyoming	22.5%	23.4%	1.0%

States with largest decrease.

States with largest increase.

2020 to 2010: Nonresponse Followup (NRFU) and Other Enumeration Activities - Deletes*

A Design Change Resulted in Higher Address Delete Resolution in 2020 than in 2010

2010 Census U.S. Total: 3.6%
2020 Census U.S. Total: 7.1%
Difference: 3.5%

Highest Address Delete Resolution: West Virginia (17.2%)
 Montana (13.7%)
 Arkansas (13.2%)

Lowest Address Delete Resolution: Rhode Island (4.0%)
 Maryland (4.2%)
 New Jersey (4.4%)

State	2010 Census	2020 Census	Difference
Alabama	5.1%	11.3%	6.2%
Alaska	6.1%	12.7%	6.6%
Arizona	4.2%	7.4%	3.2%
Arkansas	4.7%	13.2%	8.4%
California	2.3%	6.4%	4.1%
Colorado	2.6%	6.8%	4.2%
Connecticut	4.9%	4.6%	-0.3%
Delaware	2.8%	4.6%	1.9%
DC	5.0%	9.3%	4.3%
Florida	3.2%	5.3%	2.1%
Georgia	4.6%	9.6%	5.0%
Hawaii	3.2%	7.5%	4.4%
Idaho	3.9%	7.3%	3.4%
Illinois	2.7%	5.4%	2.7%
Indiana	3.0%	5.5%	2.6%
Iowa	2.4%	5.7%	3.3%
Kansas	3.0%	6.1%	3.1%

State	2010 Census	2020 Census	Difference
Kentucky	4.2%	8.6%	4.3%
Louisiana	5.3%	9.9%	4.6%
Maine	3.6%	7.6%	4.0%
Maryland	3.4%	4.2%	0.8%
Massachusetts	2.9%	6.6%	3.7%
Michigan	3.7%	5.9%	2.2%
Minnesota	2.1%	4.6%	2.5%
Mississippi	5.0%	10.9%	5.9%
Missouri	3.5%	10.5%	7.0%
Montana	4.8%	13.7%	8.9%
Nebraska	2.9%	5.6%	2.7%
Nevada	4.8%	4.8%	0.0%
New Hampshire	2.3%	5.4%	3.1%
New Jersey	2.6%	4.4%	1.8%
New Mexico	8.0%	12.2%	4.2%
New York	5.7%	8.3%	2.6%
North Carolina	5.7%	8.1%	2.4%

State	2010 Census	2020 Census	Difference
North Dakota	4.2%	10.8%	6.6%
Ohio	2.3%	5.4%	3.1%
Oklahoma	3.6%	10.4%	6.9%
Oregon	2.6%	7.8%	5.1%
Pennsylvania	3.0%	6.1%	3.1%
Rhode Island	2.4%	4.0%	1.6%
South Carolina	5.4%	10.5%	5.1%
South Dakota	3.7%	8.2%	4.5%
Tennessee	3.3%	8.5%	5.2%
Texas	3.6%	7.6%	4.0%
Utah	2.6%	7.1%	4.5%
Vermont	3.4%	8.1%	4.6%
Virginia	3.3%	4.9%	1.6%
Washington	2.7%	5.3%	2.5%
West Virginia	4.4%	17.2%	12.8%
Wisconsin	2.2%	4.9%	2.7%
Wyoming	5.3%	9.7%	4.5%

States with largest change.

States with smallest change.

* 2020 Census address delete resolution includes deleted addresses resolved by proxy interview and administrative records; for the 2010 Census, deleted addresses were resolved though proxy interviews only.

Accessing the 2020 Census Data Quality Page



1. Go to www.census.gov

Select **SURVEYS/PROGRAMS**
(at the top of the page) and
2020 Census

2. Then select [2020 Census Data Quality](#)



2020 Census Data Quality

On this webpage you'll find:

- Operational Quality Metrics
- An interactive Operational Quality Metrics tool
- Comparisons to population benchmarks
- Outside expert reviews
- Operational assessments and evaluations
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